

MANUFACTURE OF CARBON/CARBON COMPOSITES**BY HOT PRESSING****ABSTRACT OF THE DISCLOSURE**

A mixture of carbon-containing fibers, such as mesophase or isotropic pitch fibers, a suitable matrix material, such as a milled pitch is compressed while resistively heating the mixture to form a carbonized composite material. Preferably, the carbonized material has a density of at least about 1.30 g/cm^3 . Preferably, the composite material is formed in less than ten minutes. This is a significantly shorter time than for conventional processes, which typically take several days and achieve a lower density material. A treating component may be impregnated into the composite. Consequently, carbon/carbon composite materials having final densities of about $1.6\text{-}1.8 \text{ g/cm}^3$ or higher are readily achieved with one or two infiltration cycles using a pitch or other carbonaceous material to fill voids in the composite and rebaking.